

REMARKS OF THE BUPRESTIDÆ (COLEOPTERA)
OF THE NORTH PACIFIC COAST REGION
WITH DESCRIPTIONS OF NEW
SPECIES

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ANTHAXIA PSEUDOTSUGÆ (Continued).

The whole upper surface is faintly reticulate and sparsely clothed with very short microscopic hairs.

The species somewhat resembles *deleta* and *sublævis*, but the disc of the thorax lacks the lateral depressions and has the margins distinctly reflexed at the posterior angles. It also differs from all western species in the thorax, having the margins almost parallel and in the very distinct shape of the clypeal emargination.

The type was collected near **Ashland, Oregon**, several years ago. Other specimens examined include a number in the collection of Dr. H. E. Burke at Stanford University and there is a large series in the California Academy of Science, received by Dr. E. C. Van Dyke from Arizona. Burke's material includes specimens reared from Douglas fir collected at Scott's Valley and Santa Cruz, California, and at Bright Angle Camp, Grand Canyon, Arizona.

Type in the author's collection. Paratypes in the collection of Dr. Burke and of the California Academy of Sciences.

Our western forms may be differentiated by the following key:

1. Form broad and depressed; elytra roughly granulate.....
.....*æneogaster* L. and G.
- Form more elongate and subcylindrical; elytra not roughly granulate 2
2. Thorax not as wide as elytra, widest at the middle; disc without lateral depressions; margins of thorax distinctly reflexed at the posterior angles.....*pseudotsugæ* n. sp.
- Thorax slightly wider than the elytra, widest in front of middle; disc with a depression at each side; margins of thorax not distinctly reflexed..... 3
3. Front coarsely granulate; inner margins of the eyes much more approximate at the apex than at the base.....*deleta* Lec.
- Front finely granulate, almost smooth; inner margins of the eyes parallel.....*sublævis* V. D.

Genus CHALCOPHORA Sol.

C. angulicollis Lec. is the only representative of this genus in the Northwest.

Genus CHRYSOBOTHRIS Esch.

There are twenty-five species of *Chrysobothris* found along the Pacific Coast north of San Francisco Bay. One of these is here described as new. Two other species are reported from the area, but it is doubtful if they actually inhabit this region. One *C. ludificata* Horn has been reported as occurring in northern California. I have received specimens labeled *C. ludificata*, but they have proven to be other species. *Ludificata* differs from all other species of the genus found here in having the apical segments of the antennæ broader than the fourth segment.

C. quadrilineata Lec. is said to have been taken from a root of lodgepole pine in the Sierra National Forest, but there is some question regarding this record, so the species is not listed from this region.

Chrysobothris burkei W. J. Chamberlin, n. sp.

Of the general appearance of *contigua*, slightly smaller and with a more coppery appearance.

Front densely punctate, more coarsely toward vertex, with numerous smaller irregular elevated spaces presenting a somewhat roughened appearance. Vertex with median line which has a tendency to terminate in two branches forming a Y; clypeus acutely notched in male, sides more rounded in female (fig. 2 a. b.). Pronotum with numerous lævigated areas, otherwise coarsely, densely, confluent punctate. Elytra with numerous raised areas which are almost black, smooth and quite devoid of punctures, first costal prominent and entire, elytra otherwise densely punctate more coarsely at the sides. Apices separately rounded, serrate. Abdominal sternites much flattened.

Female with a broad, deep, semicircular emargination in the last ventral segment; front coppery; prosternum pubescent.

The species resembles both *contigua* and *cuprescens*, but is larger than the latter and smaller than the former, length 6.5 to 9.5 mm.

The female differs from *cuprescens* in the shape of the emargination of last ventral segment, by its larger size and much more roughened pronotum. From *contigua* it differs by

the more numerous, strongly elevated areas of pronotum; serrations of elytra more numerous and spine-like.

The depressed abdominal segments contrast markedly with *contigua* in which they are prominently rounded. In *burkei* the lateral abdominal callosities are larger, more elevated, and darker.

The male is abundantly distinct by the very large tooth quite close to the end of the tibia (fig. 3).

Described from a series of thirteen specimens (seven males, six females), reared from Jeffery pine, collected at Big Basin, San Mateo County, California, by Dr. H. E. Burke in whose honor I am very glad to name the species. Type in the collection of the author.

C. scabripennis was described in Volume II, p. 53, of Laporte and Gory's monograph, published in 1838. *C. proxima* described by Kirby in 1837 is apparently the same species and has priority. *Proxima*, ordinarily considered as an eastern species, ranges across Canada into British Columbia, Yukon and Alaska and south into Washington and Oregon.

GENUS ACMÆODERA Esch.

Fall (1899, p. 3) states that "*variegata* extends its range into eastern Oregon. All other species hail from the territory embraced by the following states or territories: Texas, New Mexico, Colorado, Utah, Nevada, and California."

Since Fall wrote his paper in 1899 the Northwest has been more thoroughly collected, and at present two species are known to occur in British Columbia, three in Washington, and five as far north as Oregon. These represent six different species while a seventh has been reported. No less than sixteen species have been taken north of San Francisco Bay in the territory covered in this paper.

Two rather interesting notes on distribution of *Acmæodera* have been gathered in preparing the monograph of the northwestern buprestids: Mr. Ralph Hopping reports taking *A. quadrivittata* at Lorna, British Columbia. Mr. M. C. Lane collected three specimens of *A. bishopiana* Fall at Adrian, Oregon, May 28. This species was previously known only from the desert region of southern California.

After examining large series of the various species of this area I am inclined to believe that *A. nexa* Fall is no more than a variety of *angelica* Fall. The two species are found in the same hosts and the apical crest seems too variable to be of specific value.

A. connexa Lec. and *A. labyrinthica* Fall seem to represent but one variable species.

Genus CHRYSOPHANA Lec.

C. placida, Lec., the only species of the genus, is quite common in our area and is remarkable for the fact that it works in the cones of various pines and also attacks finished lumber.

Dr. Obenberger recently described one of the color phases as *C. cærulans*. If color phases are to bear names there are at least four more to be named: (a) Entirely brassy green species. (b) Pale blue with brassy stripes. (c) Thorax blue green; elytra coppery except a narrow border of green. (d) Thorax bright green; elytra dull green with dark purple stripes.

Genus POLYCESTA Solier.

P. californica is the sole representative of this genus in the Northwest. It has no less than twenty-six different host plants.

Genus AGRILUS Steph.

This genus is poorly represented in this area, there being only nine species found. Two of these are described below.

None of the species frequent or breed in coniferous trees, but some cause considerable damage to broad-leaved trees and shrubs.

Agrilus trichocarpæ W. J. Chamberlin, n. sp.

Head and thorax olive green sometimes slightly brassy; elytra coppery with two spots of golden pubescence lying one-third and two-thirds the distance from base. Tips of elytra angulated and very prominently toothed. Head, without median impression, thickly clothed with short, straw-colored pubescence; thorax less so. Pronotum with median depression, interrupted near middle, with a very prominent carina near lateral posterior angles; surface strigose. Lateral margins sinuate widest in front of middle, constricted in basal third, base slightly narrower than apex. Thorax two-thirds as long as broad. Elytra sinuate behind the humeri broadening slightly one-third from base. No costæ, surface coarsely, very shallowly punctate.

Prosternum with a prominent, strongly reflexed lobe with shallow, wide emargination at center. Beneath uniformly olive green, quite thickly clothed with silvery hairs especially on the sternum. Length

7.5 mm. to 9 mm. Abdominal segment sparsely uniformly covered with fine punctations.

This species resembles *niveiventris* and *nevadensis* and is doubtless confused with these in collections.

It differs by its larger size, in having the lobe of the anterior margin very strongly reflexed and in having a much more definite emargination at the middle. The transverse sulcus at the base of the lobe is very deep and prominent and extends to the lateral margins. The venter is much less densely clothed with scale-like hairs than in the typical *niveiventris*. The first and second abdominal segments are both grooved in the male; convex and smooth in the female.

Type locality: **Oakridge, Oregon.**

This species is widely distributed and apparently not rare. It is known from British Columbia, Washington, Oregon, and California as far south as Fresno. Type in collection of the author.

Life history and habits: Eggs are deposited on cottonwood in May and June; the larvæ mine the cambium and bark, excavating long winding tunnels which cross and recross many times; pupation takes place in the bark. The known hosts are *Populus trichocarpa* and *P. nigraitalica*.

***Agrilus manzanitæ* W J. Chamberlin, n. sp.**

Form very robust, similar to *angelicus* but larger. Head prominently convex with pronounced median depression, slightly strigose. Thorax carmine-like, disc imbricated, not strigose, without median depression, wider than long, apex wider than base, lateral margin uniformly and evenly arcuate in anterior three-fourths, narrowed and nearly paralleled at posterior quarter; carina distinct but not prominent. Elytra bronze to purplish bronze, prominently imbricated, lateral margins slightly sinuate, apices separately and broadly rounded, finely serrulate, basal fovæ large, moderately deep. Length 7 to 8 mm. Body beneath brassy; sparsely, finely pubescent. Prosternal lobe so strongly reflexed as to be nearly at right angles to the prosternum with a wide, shallow emargination in front.

Type locality: **Ashland, Oregon.**

This species has been separated out as new for some time, but has remained undescribed. It is probably not rare and is quite widely distributed in the chaparral regions where its principal host, manzanita, is common. Type in collection of the author.

Life history and habits: The eggs are deposited singly and covered with a glue-like substance, on the smooth bark of manzanita, either branches or trunk. They are flattened, opaque white when first deposited, turning black in a few days. The larvæ leave the egg through the bottom and bore a short distance in the bark, then live for a time in the cambium and finally enter the wood. On small branches the new mine is transverse and often causes a gall-like swelling on the living twigs. Two years are required for the life cycle.

Hosts: *Arctostaphylos manzanita*, *A. glauca*, *A. tomentosa*, *A. viscida* and *Arbutus menziesii*.

Distribution: Southern Oregon, northern and central California.

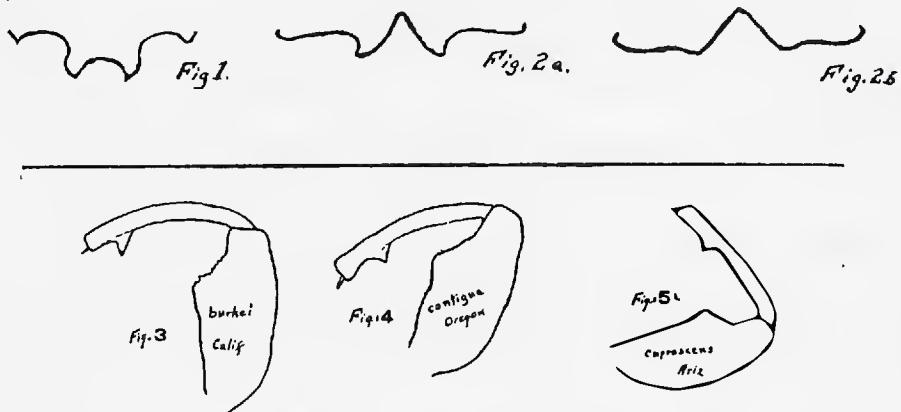


Fig. 1. Clypeus of *Anthaxia pseudotsugæ* n. sp.

Fig. 2. Clypeus of *Chrysobothris burkei* n. sp.
a. female; b. male

Fig. 3. Portion of front leg of male *C. burkei*

Fig. 4. Portion of front leg of male *C. contigua*

Fig. 5. Portion of front leg of male *C. cuprescens*

List of the genera and species of Buprestidæ found in the North Pacific Coast region:

I. Genus DICERCA Esch.

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|---------------------------|---------------------------|
| 1. <i>lurida</i> Fab. | 4. <i>tenebrosa</i> Kirby |
| 2. <i>horni</i> Crotch | 5. <i>pectorosa</i> Lec. |
| 3. <i>sexualis</i> Crotch | 6. <i>prolongata</i> Lec. |

II. Genus PÆCILONOTA Esch.

- | | |
|----------------------------------|------------------------------|
| 7. <i>californica</i> Chamberlin | 9. <i>fraseri</i> Chamberlin |
| 8. <i>montanus</i> Chamberlin | |

III. Genus TRACHYKELE Mars.

- | | |
|---------------------------|---------------------------|
| 10. <i>opulenta</i> Fall | 12. <i>nimbosa</i> Fall |
| 11. <i>blondeli</i> Mars. | 13. <i>hartmani</i> Burke |
| a. <i>juniperi</i> Burke | |

IV. Genus MELANOPHILA Esch.

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|----------------------------|---------------------------------|
| 14. <i>gentilis</i> Lec. | 18. <i>atropurpurea</i> Say |
| 15. <i>miranda</i> Lec. | 19. <i>acuminata</i> DeGeer |
| 16. <i>drummondi</i> Kirby | 20. <i>consputa</i> Lec. |
| 17. <i>intrusa</i> Horn | 21. <i>californica</i> Van Dyke |

V. Genus BUPRESTIS Linn.

- | | |
|-----------------------------|--------------------------------------|
| 22. <i>aurulenta</i> Linn. | 28. <i>confluens</i> Say |
| 23. <i>connexa</i> Horn | 29. <i>læviventris</i> Lec. |
| 24. <i>adjecta</i> Lec. | 30. <i>nuttalli</i> Kirby |
| 25. <i>langi</i> Mann. | 31. <i>alternans</i> Kirby |
| 26. <i>subornata</i> Lec. | 32. <i>viridisuturalis</i> N. and W. |
| 27. <i>rusticorum</i> Kirby | 33. <i>gibbsi</i> Lec. |

VI. Genus ANTHAXIA Esch.

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|---------------------------------|-------------------------------|
| 34. <i>æneogaster</i> L. and G. | 36. <i>sublævis</i> Van Dyke |
| 35. <i>deleta</i> Lec. | 37. <i>pseudotsugæ</i> Chamb. |

VII. Genus CHALCOPHORA Sol.

38. *angulicollis* Lec.

VIII. Genus CHRYSOBOTHRIS Esch.

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|---------------------------------|-------------------------------|
| 39. <i>femorata</i> Fab. | 52. <i>juniperinus</i> Chamb. |
| 40. <i>contigua</i> Lec. | 53. <i>breviloba</i> Fall |
| 41. <i>burkei</i> Chamb. | 54. <i>monticolæ</i> Fall |
| 42. <i>lilaceous</i> Chamb. | 55. <i>mali</i> Horn |
| 43. <i>viridicyanea</i> Horn | 56. <i>nixa</i> Horn |
| 44. <i>dolata</i> Horn | 57. <i>cyanella</i> Horn |
| 45. <i>dentipes</i> Germ. | 58. <i>prasina</i> Horn |
| 46. <i>carinipennis</i> Lec. | 59. <i>ludificata</i> Horn |
| 47. <i>pseudotsugæ</i> Van Dyke | 60. <i>falli</i> Van Dyke |
| 48. <i>californica</i> Lec. | 61. <i>trinervia</i> Kirby |
| 49. <i>laricis</i> Van Dyke | 62. <i>proxima</i> Kirby |
| 50. <i>sylvania</i> Fall | 63. <i>pubescens</i> Fall |
| 51. <i>caurina</i> Horn | 64. <i>deleta</i> Lec. |

IX. Genus ACMÆODERA Esch.

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|-------------------------------|------------------------------|
| 65. <i>quadrivittata</i> Horn | 74. <i>prorsa</i> Fall |
| 66. <i>gemina</i> Horn | 75. <i>dolorosa</i> Fall |
| 67. <i>plagiaticauda</i> Horn | 76. <i>variegata</i> Lec. |
| 68. <i>hepburni</i> Lec. | 77. <i>sinuata</i> Van Dyke |
| 69. <i>angelica</i> Fall | <i>a. sexnotata</i> Van Dyke |
| 70. <i>nexa</i> Fall | 78. <i>connexa</i> Lec. |
| 71. <i>mariposa</i> Horn | 79. <i>bischopiana</i> Fall |
| 72. <i>dohrni</i> Horn | 80. <i>acuta</i> Lec. |
| 73. <i>vandykei</i> Fall | 81. <i>labyrinthica</i> Fall |

X. Genus CHRYSOPHANA Lec.

82. *placida* Lec.

XI. Genus POLYCESTA Solier.

83. *californica* Lec.

XII. Genus AGRILUS Stephens

84. *walsinghami* Crotch89. *politus* Say85. *vittaticollis* Rand.90. *burkei* Fisher86. *trichocarpæ* Chamb.91. *manzanitæ* Chamb.87. *niveiventris* Horn92. *angelicus* Horn88. *anxius* Gory

DIABROTICA BALTEATA AGAIN

Diabrotica balteata Lec. was collected by Mr. Warwick Benedict and myself at Yuma, Arizona, on April 3, 1924, and at Calipatria, California, on April 4, 1924, from alfalfa.

I took it again on peppers (*Capsicum annuum*) in the Mission Valley, San Diego, California, on September 22, 1927. There was no apparent damage being done, although the beetles were quite numerous. Specimens were sent to the U. S. Department of Agriculture, Bureau of Entomology, for identification. In a letter dated April 18, 1928, Mr. W. H. White, Associate Entomologist, says in part:

"There is one very interesting species occurrence here in that we note that *Diabrotica balteata* was collected at San Diego, California. This is the first record I know of of this insect being found in California. I have been through some of the literature and have not been able to find this insect as recorded any farther west than Arizona."

Within a day or so after the receipt of this letter, the above two records were sent in to the Insect Pest Survey of the Bureau of Entomology, and the information will be found in their files.—A. C. DAVIS.